

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. (Currently Amended) A method for monitoring a technical system having a process variable and an associated threshold parameter value therefore which are sampled cyclically comprising emission of a process-variable-dependent identification signal for a control program selected from the group consisting of a closed-loop, open-loop and closed-loop and open-loop control program with cyclic sampling of at least one of said process variables and determining a threshold value crossing time from at least two previous samples of a process variable having at least one threshold value, wherein a timing mechanism is started using a time difference between a last sampled process variable and the determined threshold value crossing time, and wherein the timing mechanism provides for an identification signal independent from said cyclic sampling when said time difference has passed.

2. (Cancelled)

3. (Original) The method according to claim 2, further comprising processing a single-stage or multi-stage command sequence on the basis of one occurrence of the identification signal of the reached time difference.

4. (Original) The method according to claim 1, further comprising determining the threshold value crossing time from samples of a process variable with the aid of a mathematical approximation function.

5. (Original) The method according to claim 1, further comprising detecting characteristic values of a technical process; using the characteristic values to form a model

simulation of a control path in the control program; supplying at least one manipulated variable for the technical process to the model simulation; and determining a threshold value crossing time by the model simulation.

6. (Original) The method according to claim 5, further comprising determining the threshold value crossing time in each remaining sampling cycle using updated instantaneous values of the process variable and initializing the timing mechanism with a remaining time difference in each sampling cycle which precedes the sampling cycle in which the threshold value crossing is expected, and restarting the timing mechanism with an updated time difference in the following sampling cycles, provided that the threshold value crossing has not occurred.

7. (Original) The method according to claim 1, further comprising determining the threshold value crossing time in each remaining sampling cycle using updated instantaneous values of the process variable and initializing the timing mechanism with a remaining time difference in each sampling cycle which precedes the sampling cycle in which the threshold value crossing is expected, and restarting the timing mechanism with an updated time difference in the following sampling cycles, provided that the threshold value crossing has not occurred.